REMARKS/ARGUMENTS

Claims 1 and 3-78 remain pending in this application. Claims 1, 10, 17-22, 29-32, 35, 38-42, 44-46, 48-49, 51-52, 54-56, 59-63, 65-67, 69-72 and 75-76 have been amended.

Further to a telephone conference with the Examining Attorney on August 8, 2001, Applicant has amended the above-identified claims to clarify that the first and second application processors/front end processors of the present invention comprise <u>servers</u> that operate in a network processing environment (as opposed to processors that are incorporated within a computer, as disclosed in U.S. Patent No. 5,751,955 to Sonnier *et al.*).

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "<u>Version With Markings to Show Changes Made</u>".

In view of the foregoing amendments and remarks, it is respectfully submitted that the claims are now in condition for allowance and eventual issuance. Such action is respectfully requested. Should the Examiner have any further questions or comments which need be addressed in order to obtain allowance, he is invited to contact the undersigned attorney at the number listed below.

Acknowledgement of receipt is respectfully requested.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Claims 1, 10, 17-22, 29-32, 35, 38-42, 44-46, 48-49, 51-52, 54-56, 59-63, 65-67, 69-72 and 75-76 have been amended as follows:

1.   (Twice Amended) A system for providing network processing and stored data access, the system comprising:

        (a)   at least first and second [application processors] <u>servers</u> operative to simultaneously process at least first and second user requests, respectively, each of the first and second [processors] <u>servers</u> applying substantially the same application at substantially the same time;

        (b)   a switch operatively connected to at least the first and second [processors] <u>servers</u>;

        (c)   a data storage device operatively connected to the switch; and

        (d)   wherein data stored in the data storage device is associated with the application.

10.   (Amended) The system of Claim 1 wherein the switch comprises a switch with at least first and second interfaces for each of said [application processors] <u>servers</u> and the data storage device, the switch operatively connected between the [application processors] <u>servers</u> and the data storage device.

17.   (Amended) The system of Claim 1 further comprising a load balancer operatively connected to the first and second [processors] <u>servers</u>.

18.   (Amended) The system of Claim 17 wherein the load balancer comprises a processor

operative to select one of the at least first and second [processors] <u>servers</u>.

19.   (Twice Amended) A system for providing network processing and stored data access, the

system comprising:

        (a)   at least first and second sets of [front end processors] <u>servers</u>, each of the

sets comprising at least two [front end processors] <u>servers</u> operative to simultaneously process at

least two user requests, respectively, each of the two [front end processors] <u>servers</u> applying

substantially the same application at substantially the same time;

        (b)   at least first and second switches, each switch operatively connected to

each of the [front end processors] <u>servers</u> in each of the sets;

        (c)   at least two data storage servers operatively connected to each of the first

and second switches; and

        (d)   wherein data stored in the data storage devices is associated with the

application of at least one set of [front end processors] <u>servers</u>.

20.   (Amended) The system of Claim 19 wherein the application for each set of [front end

processors] <u>servers</u> comprises an application selected from the group of: a mail application, a

news application, a directory application, a content application, a groupware application, and an

internet protocol (IP) service.

21.   (Amended) The system of Claim 20 wherein the application for each set of [front end

processors] <u>servers</u> is associated with a plurality of users.

22.   (Amended) The system of Claim 19 wherein each of the operative connections from each of the [front end processors] <u>servers</u> to each switch and each of the operative connections from each of the data storage servers to each switch comprises a duplicative operative connection.

29.   (Amended) The system of Claim 19 further comprising a load balancer operatively connected to each of the sets of [front end processors] <u>servers</u>.

30.   (Amended) The system of Claim 29 wherein the load balancer comprises a processor operative to select one [front end processor] <u>server</u> of one of the sets.

31.   (Twice Amended) A method for providing network processing and stored data access, the method comprising the steps of:

(a)   applying substantially the same application on each of at least first and second [application processors] <u>servers</u> at substantially the same time;

(b)   inputting a plurality of data requests associated with the application, a first and second data request input into the first and second [application processors] <u>servers</u>, respectively;

(c)   generating in response to the first and second data request first and second queries, respectively, with the first and second [application processors] <u>servers</u>, respectively; and

(d)   switching the first and second queries to a data storage device operatively connected to each of the first and second [application processors] <u>servers</u>.

32.   (Amended) The method of Claim 31 further comprising the step (e) of providing a response to the first and second queries data from the data storage device to the first and second [application processors] <u>servers</u>, respectively.

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35.   (Amended) The method of Claim 31 wherein the step (b) comprises routing each of the

plurality of data requests to the one of the first and second [application processors] servers

corresponding to the [application processor] server with the least load.

38.   (Amended) A system for providing network processing and stored data access, the

system comprising:

(a)   at least a first [application processor] server applying an application;

(b)   a switch operatively connected to the first [application processor] server;

(c)   at least first, second and third data storage servers operatively connected to the

switch;

(d)   wherein the first, second and third data storage servers provide output data at

substantially a same time to the first [application processor] server; and

(e)   wherein data stored on the first data storage server is mirrored in part on the

second data storage server and in part on the third data storage server.

39.   (Amended) The system of Claim 38 wherein:

the [application processor] server generates a plurality of queries for stored data in

response a plurality of requests from at least one user;

at least one of said plurality of queries is switched to the first data storage server;

at least another of said plurality of queries is switched to the second data storage server;

and

the output data is provided in response to the queries.

40.   (Amended) The system of Claim 38 further comprising:

(e)   at least a second [application processor] <u>server</u> applying the application; and

(f)   a load balancer operatively connected to the first and [application processors]

<u>servers</u>.

41.   (Amended) The system of Claim 40 wherein the load balancer comprises a processor

operative to select one of the first and second [application processors] <u>servers</u> to process a user

request.

42.   (Amended) The system of Claim 38 wherein the data stored on the first data storage

server comprises first [application processor] <u>server</u> configuration data.

44.   (Amended) A method for providing network processing and stored data access, the

method comprising the steps of:

(a)   receiving at least first, second and third user requests at a first [application

processor] <u>server</u>;

(b)   applying an application in response to each of the first, second and third requests

with the first [application processor] <u>server</u>;

(c)   generating first, second and third queries for stored data in response to applying

the application to the first, second and third requests, respectively;

(d)   switching the first, second and third queries to at least a first, second and third

source of stored data, respectively, the first, second and third sources comprising mirrored data;

(e)   mirroring data stored in the first source in part in the second source and in part in

the third source; and

(f)   providing first, second, and third output data at substantially a same time in response to the first, second and third queries, respectively, from the first, second and third sources, respectively to the [application processor] <u>server</u>.

45.   (Amended) The method of Claim 44 wherein the step (a) comprises routing each of the first, second and third requests to the one of the first and a second [application processors] <u>servers</u> with the least load, the first and second [application processors] <u>servers</u> applying the application.

46.   (Amended) The method of Claim 44 further comprising step (g) of storing [application processor] <u>server</u> configuration data on at least one of the first, second and third sources of stored data.

48.   (Twice Amended) A system for providing network processing and stored data access, the system comprising:

(a)   at least first and second [application processors] <u>servers</u> operative to simultaneously process at least first and second user requests, respectively, each of the first and second [application processors] <u>servers</u> applying substantially the same application at substantially the same time;

(b)   a load balancer operatively connected to the first and second [application processors] <u>servers</u>;

(c)   a switch operatively connected to the first and second [application processors] <u>servers</u>;

(d)   at least first and second sources of stored data operatively connected to the

switch, the first and second source comprising mirrored data; and

(e)   wherein the first and second source of stored data provide output data at

substantially a same time to the first and second [application processors] <u>servers</u> for the

application.

49.   (Amended) The system of Claim 48 wherein:

at least one of the first and second [application processors] <u>servers</u> generates a plurality of

queries for stored data in response a plurality of requests from at least one user;

at least one query is switched to the first source of stored data;

at least another query is switched to the second source of stored data; and

the output data is provided in response to the queries.

51.   (Amended) The system of Claim 48 wherein the load balancer comprises a processor

operative to select one of the first and second [application processors] <u>servers</u> to process a user

request.

52.   (Amended) The system of Claim 48 wherein the data stored on at least the first source of

stored data comprises first [application processor] <u>server</u> configuration data.

54.   (Twice Amended) A method for providing network processing and stored data access, the

method comprising the steps of:

(a)   load balancing at least first and second user requests between at least first and

second [application processors] <u>servers</u>, respectively;

(b)   applying substantially the same application in response to each of the first and

second requests with the first and second [application processors] <u>servers</u>;

(c)   generating first and second queries for stored data in response to applying the

application to the first and second requests, respectively;

(d)   switching the first and second queries to at least first and second sources of stored

data, respectively, the first and second sources comprising mirrored data; and

(e)   providing first and second output data at substantially a same time in response to

the first and second queries, respectively, from the first and second sources, respectively to the

first and second [application processors] <u>servers</u>.

55.   (Amended) The method of Claim 54 wherein the step (a) comprises routing each of the

first and second requests to the one of the first and second [application processors] <u>servers</u> with

the least load.

56.   (Amended) The method of Claim 54 further comprising step (f) of storing [application

processor] <u>server</u> configuration data on at least one of the first and second sources of stored data.

59.   (Amended) A system for providing network processing and stored data access, the

system comprising:

(a)   at least a first [application processor] <u>server</u> applying an application;

(b)   a switch operatively connected to the first [application processor] <u>server</u>;

(c)   at least first and second source of stored data operatively connected to the switch,

the first and second source comprising mirrored data;

(d)   a hub operatively connected to the first and second sources of stored data and the switch; and

(e)   wherein the first and second source of stored data provide output data at substantially a same time to the first [application processor] server and provide status data to the switch and the hub.

60.   (Amended) The system of Claim 59 wherein:

the first [application processor] server generates a plurality of queries for stored data in response a plurality of requests from at least one user;

at least one of said plurality of queries is switched to the first source of stored data;

at least another of said plurality of queries is switched to the second source of stored data; and

the output data is provided in response to the queries.

61.   (Amended) The system of Claim 59 further comprising:

(f)   at least a second [application processor] server applying the application; and

(g)   a load balancer operatively connected to the first and second [application processors] servers.

62.   (Amended) The system of Claim 61 wherein the load balancer comprises a processor operative to select one of the first and second [application processors] servers to process a user request.

63.   (Amended) The system of Claim 59 wherein the data stored on the first data storage server comprises first [application processor] server configuration data.

65.   (Amended) A method for providing network processing and stored data access, the

method comprising the steps of:

(a)   receiving at least first and second user requests at a first [application processor]

server;

(b)   applying an application in response to each of the first and second requests with

the first [application processor] server;

(c)   generating first and second queries for stored data in response to applying the

application to the first and second requests, respectively;

(d)   switching the first and second queries to at least a first and second source of

stored data, respectively, the first and second sources comprising mirrored data;

(e)   providing first and second output data at substantially a same time in response to

the first and second queries, respectively, from the first and second sources, respectively, to the

first [application processor] server; and

(f)   providing operation signals from each of the first and second sources of stored

data to a switch and a hub.

66.   (Amended) The method of Claim 65 wherein the step(a) comprises routing each of the

first and second requests to one of the first and a second [application processors] servers with the

least load, the first and second [application processors] servers applying the application.

67.   (Amended) The method of Claim 65 further comprising step (g) of storing [application

processor] server configuration data on at least one of the first and second sources of stored data.

69.   (Amended) A system for providing network processing and stored data access, the system comprising:

(a)   at least a first [application processor] <u>server</u> applying an application;

(b)   a switch operatively connected to the first [application processor] <u>server</u>;

(c)   at least first and second sources of stored data operatively connected to the switch, data of the first and second source comprising mirrored [application processor] <u>server</u> configuration data; and

(d)   wherein the first and second source of stored data provide output data at substantially a same time to the first [application processor] <u>server</u> for the application.

70.   (Amended) The system of Claim 69 wherein:

the [application processor] <u>server</u> generates a plurality of queries for stored data in response a plurality of requests from at least one user;

at least one of said plurality of queries is switched to the first source of stored data;

at least another of said plurality of queries is switched to the second source of stored data; and

the output data is provided in response to the queries.

71.   (Amended) The system of Claim 69 further comprising:

(e)   at least a second [application processor] <u>server</u> applying the application; and

(f)   a load balancer operatively connected to the first and second [application processors] <u>servers</u>.

72.   (Amended) The system of Claim 71 wherein the load balancer comprises a processor

operative to select one of the first and second [application processors] servers to process a user

request.

75.   (Amended) A method for providing network processing and stored data access, the

method comprising the steps of:

(a)   receiving at least first and second user requests at a first [application processor]

server;

(b)   applying an application in response to each of the first and second requests with

the first [application processor] server;

(c)   generating first and second queries for stored data in response to applying the

application to the first and second requests, respectively;

(d)   switching the first and second queries to at least a first and second source of

stored data, respectively, the first and second sources comprising mirrored data;

(e)   providing first and second output data at substantially a same time in response to

the first and second queries, respectively, from the first and second sources, respectively to the

[application processor] server; and

(f)   storing [application processor] server configuration data on at least one of the first

and second sources of stored data.

76.   (Amended) The method of Claim 75 wherein the step (a) comprises routing each of the

first and second requests to the one of the first and a second [application processor] servers with

the least load, the first and second [application processors] servers applying the application.